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AMERICAN GAS ENGINEERING JOURNAL

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AMERICAN GAS LIGHT JOURNAL

VOL. CX., No. 10
WHOLE No. 3183

NEW YORK, SATURDAY, MARCH 8, 1919

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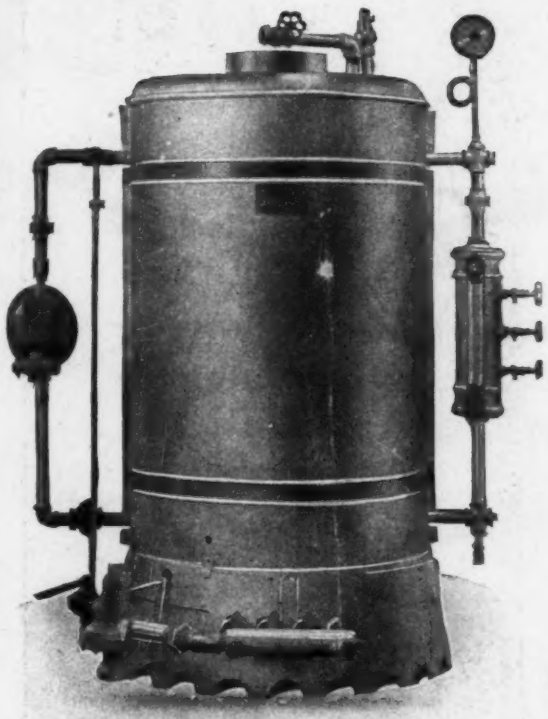

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Entered as second-class matter January 9, 1917, at the post-office at New York, N. Y., under the Act of March 3, 1879.
Published by American Gas Light Journal, Inc.

Orders received through salesmen is a matter of salesmanship. Sample and unsolicited repeat orders signifies PREDOMINANT SUPERIORITY of the goods, the remarkable growth of the sales of KOMPAK AUTOMATIC WATER HEATERS was not attained by means of an elaborate sales organization but by means of sample and repeat orders received by mail. We believe that we have established that full confidence of the trade which is so necessary for big business.

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Vol. CX, No. 10 NEW YORK, MARCH 8, 1919 Whole No. 3183

Practical Reasons Why Gas Lighting Should Be Easily Sold to Butchers

Place Two Shops Side by Side, One Lighted by Electricity, the Other by Gas — Which Will Sell the Most Meat After Sundown — The Answer and Why

By J. E. BULLARD

Each different business has its own peculiar lighting requirements. These requirements vary all the way from the dim religious light of the churches to the brilliantly lighted cabaret. They vary in color from the daylight effects needed at the ribbon counter for matching colors, to the many colored lights of the projector used to give beautiful color effects to the dancers on the stage. Every different use of light means a different requirement, and the gas man can well afford to study its uses and requirements to learn if there is not particular reason why gas should give better results than any other form of lighting

INTERIOR AND EXTERIOR LIGHTED BY GAS

Special Appeal That Won Consideration

Some commercial gas lighting salesmen have made such studies. One salesman was having extraordinarily good success selling gas lighting to butcher shops. Though at the time he was specializing on outside lighting, every order he took from a butcher included inside lighting as well. When questioned he told of a special appeal he had learned which secured contract after contract from these butchers.

In the butcher business, the redder the meat appears the fresher and more appetizing it appears. It is only natural, then, that a light with a reddish tinge will make the meat displayed show up to better advantage than a light with more blue and violet rays. A soft warm red light is better than a cold harsh blue light. For butcher-shop lighting, therefore, gas has a very decided advantage over electric lighting. Its soft rays with a tinge of red serve to accentuate the redness of the meat without attracting attention to the color of the light. Some types of electric light tend to make the meat look deader and staler than it really is. If there are two butcher shops alongside each other, each selling the same grade of meat, one is lighted with gas and the other with electricity, the gas lighted shop, provided the service is as good as in the electric lighted shop, is pretty sure to sell more meat after dark

than the electrically lighted one. This is entirely due to the better showing the same meat makes under gas light than it does under electric light. The color of the electric light is too blue. The color of the gas light is almost exactly right.

Learning the Other Fellow's Business

This gas lighting salesman used these qualities of gas lighting to good advantage. He did not deal in "glittering generalities." He visited butcher shops and listened to the arguments the butchers used to sell customers different kinds and different cuts of meats. He learned the names of the different cuts of meats and the qualities which they must possess in order to make them appeal to the purchaser. He learned many things he needed to know about corned beef, mutton, pork, veal and beef. He prepared himself to talk in the butcher's own language. This all required time and effort, but it was time and effort well spent, because when he had acquired this knowledge he could talk specifically to the butcher. He could take a particular cut of meat and show just why gas lighting would help sell that cut of meat.

When he was ready to specialize on selling gas lighting to butcher shops he went to his sales manager, gave him a list of names upon which he would call within a week or two, and had the following letter mailed to this list. He then called upon the list and closed the business.

Mr.....
.....
.....

Dear Sir:

It is very important in the butcher business that the meat displayed always have a fresh, appetizing, attractive appearance. Butchers have spent thousands of dollars in the attempt to bring about this condition of affairs. There, however, is one element which has not been given the amount of attention it deserves. That element is artificial lighting.

It is hardly to be expected that a hard, cold, expressionless light will make the meat displayed appear as attractive as a mellow, warm, glowing light will make it appear.

This is one reason why we are selling our lamp service to so many butchers. The gas lamps we use give a soft, white mellow light closely approaching daylight, which is particularly fitted to suit the butcher.

Fill out and mail the enclosed post card, and one of our lighting specialists who has given much attention to the lighting requirements in the butcher business will call upon you at no expense to you and tell you just what we can do.

Yours very truly,
.....Gas Company,
.....
New Business Manager

The results of going after the business in this way were very satisfactory indeed. Many post cards were returned and business was secured from butchers who had not taken the trouble to mail in the card. The letter had opened up the way for the salesman and set the butcher thinking. He was in a more receptive mind than he would have been if no letter from the new business manager had been mailed before the salesman called.

Any lighting salesman, any gas company salesman can follow these same methods. First of all it is necessary to acquire some knowledge of the butcher business, to acquire some knowledge of the requirements in this business, to acquire some knowledge of the problems of the butcher. Merely going from butcher to butcher and repeating a parrot-like sales talk will not secure the amount of business that can be secured if the salesman displays some understanding of the butcher business.

Working Against Unnecessary Odds

He acquire this by visiting butcher shops and listening to the butcher talking to the customers. He can acquire it by talking and asking questions of the butcher. It may even pay him to spend a few Saturday nights working in a busy butcher shop. He not only will learn a great deal in this way, but the butcher will probably be only too glad to have him help him out and will pay for the time and trouble required to give this help. The main thing is to acquire all the knowledge possible about the business and acquire it in the shortest possible space of time. Once this knowledge is acquired it will be found invaluable in selling the butcher not only gas lighting but all other gas appliances as well.

A great mistake that many salesmen make is to endeavor to sell goods to business men in lines about which they know little or nothing and the problems of which they have not learned. When this is done the salesman is bound to make many mistakes. He is bound to have dissatisfied customers. He is working against great and unnecessary odds. With a little effort on his part he can learn the needs of the business well enough so that whatever he sells will meet these needs, will give satisfactory service.

Gas Lighting Actually Sold

It will be noted that the salesman mentioned above who specialized on butchers and whose success was so great as to attract considerable attention, did learn all he could about the butcher business. It was this knowledge which he had gained as much as the good qualities of gas lighting which made his efforts so successful. It was this knowledge which gave the butchers he interviewed so much confidence in his judgment. It was this method which he used which caused the installations he made to prove so satisfactory.

He had learned the kind of light which would give the most satisfactory service to the butcher. He had sold his own ideas about the light to the butcher. He had learned just where the lights should be placed in order to give the most satisfactory service and he insisted that the lights be placed where he indicated they should be placed. He showed the butcher where the lights should be placed and why. He showed the butcher why the placing of the lights in any other position would not give the best results. He went into the proposition so thoroughly and so intelligently that the gas lighting was actually sold. It was not merely put in on trial as so many installations are whether they are paid for by the customers or not, whether they are taken on a year's contract or for a longer or a shorter period. These butchers knew that gas lighting would

be better than electricity. When the gas lighting was installed they knew they had the best light. There was no guesswork about it. There was no desire to give the lights a more or less prolonged trial. They were installed because the butchers were convinced that gas lighting was the only kind of light that would prove entirely satisfactory. The result was that gas lighting did prove entirely satisfactory.

To make a permanent success in selling anything it is necessary to sell the idea of its use.

Springfield Tests Indicate that Retort Life Is Increased by Steaming

L. J. Willien Concludes that Steaming with Continuous Vertical Retorts Is Feasible, that the Yield of Gas Can Be Increased 20 Per Cent with Practically No Loss in Coke and that the Ammonia Yield Is Increased About 12 Per Cent

Steaming with vertical retorts has been practised with the Dessau Vertical Retorts since their introduction in 1916, declared L. J. Willien in a paper presented at the recent annual convention of the New England Association of Gas Engineers. The steam is introduced at the bottom of the retorts during the last two hours of the carbonizing period. By using steam in this way, the yield of gas is increased about 20 per cent; the candle power is reduced 25 per cent, and the B.t.u. 8 per cent.

The steam is introduced at the bottom and passes up through the retorts, a chemical reaction taking place between the steam and the incandescent carbon, which results in the production of carbon monoxide and hydrogen or "Blue Water Gas." The temperature of the carbon with which the steam comes in contact has a direct bearing on the amount of "Blue Water Gas" formed. It is very desirable to keep the temperature in the decomposition zone as high as possible. The following table shows the reaction between steam and carbon at different temperatures:

Temp. Fahr.	Percentage of Steam Decomposed	Composition of Gas by Volume		
		Hydrogen	Carbon Monoxide	Carbon Dioxide
1240	8.8	65.2	4.9	29.8
1400	25.3	65.2	7.8	27.0
1540	41.0	61.9	15.1	22.9
1750	70.2	53.3	39.3	6.8
1770	94.0	48.8	49.7	1.5
1960	99.4	50.9	48.5	0.6

When complete decomposition of the steam takes place, the reaction is as follows:

$$C + H_2O = 2H + CO.$$

As the temperature decreases a secondary reaction takes place, thus:

$$C + 2H_2O + 4H + CO_2.$$

In order to obtain the most efficient reaction between the steam and carbon, it is advisable to introduce the steam during the last stages of the carbonizing period with an intermittent system of vertical retorts. With a continuous system such as the Glover-West or the Woodall-Duckham, the steam can be introduced continuously.

Springfield Tests

The tests at Springfield were made in March, 1917, in connection with the investigation made by the Massachusetts Board of Gas and Electric Commission, relative to the adoption of a calorific standard for gas.

One unit of the Glover-West continuous system of vertical retorts was equipped with steam connections. This unit consisted of 24 retorts which were operated for one week without steam, and one week with steam. Records were made of the coal used, gas made and quality of same, also the effects on the operating conditions such as scurfing, etc.

The coal used was taken from a lot that was known to be of a uniform mixture.

Steam Supply, Measurement and Superheating of —

The connections for introducing steam into the retorts were made at the top of the casting connected to the bottom of the retort. The main supply was a ¾-in. line. At the inlet to each retort the steam line was equipped with a valve and disc with a ¼-in. orifice, the purpose of this arrangement being to obtain an equal distribution of the steam going into each retort. Without such an arrangement, the retorts nearest the main supply line would get more steam than those farther away.

The amount of steam used was measured by placing a disc with a ½-in. orifice in the main steam supply line and pressure gauges on both sides of the disc. The steam pressure was kept constant by means of a pressure regulator on the high pressure side of the disc. The steam used was calculated from Napier's formula for the flow of steam through an orifice. This formula is —

$$W = \frac{PA}{70}$$

where W = pounds of steam per second; P = absolute pressure in pounds per sq. in.; and A = area of the orifice in sq. in.

This formula holds as long as the pressure on the external side of the disc is less than 58 per cent of the initial pressure.

The steam was superheated about 200 deg. Fahr. by passing it through two lengths of pipe placed in one of the waste heat flues of the retort setting.

Proper Amount of Steam

The preliminary work showed that if too much steam was introduced, it would fill up the lower casting and would condense, leaking out around the lower mouthpiece. The amount of steam to be used was determined by gradually increasing the pressure on the inlet side of the disc in the main steam supply until water began dripping around the mouthpieces. This occurred when the steam pressure was 23 pounds per sq. in. It was decided to regulate the pressure at 20 pounds.

The amount of steam used, as calculated from Napier's formula, was 8,400 pounds per day, or 350 pounds per retort per day.

Tests on Gas, Coal and Coke

A small sampling holder of 15-cu. ft. capacity was used for collecting samples of gas for testing purposes. Gas was run into the holder from 8.30 a. m. until 4.00 p. m. This was then tested for B.t.u. and candle power. Another sample was collected between 5.00 p. m. and 7.30 a. m., and tested in like manner.

Once each week, Mr. Jenkins, Chief Gas Inspector for the Massachusetts Gas Commission, tested a day and night sample for B.t.u. and candle power, and also took off a sample for complete analysis.

Samples of coal used were taken, also samples of the coke made, and "Proximate Analyses" made of them.

Results

The following are the results obtained:

	Without Steam	With Steam	Per cent Gain or Loss
Yield per pound	5.49 cu. ft.	6.72 cu. ft.	22.4 gain
B.t.u.	540	519	3.8 loss
B.t.u. per pound	2965	3480	17.6 gain
Candle power	9.5	7.0	26.3 loss

Analyses of the gas, coal and coke are given in tables I, II and III.

The average number of retorts out per day for scurfing was 43.7 per cent less with the steam than without. There seemed to be a marked difference in the formation of the carbon with steam and without steam. Carbon formed without steam is very hard, and requires considerable time to burn off. It adheres to the retorts so that if it is chipped off with slicing bars, very often some of the clay of the retorts comes off with it. This means considerable wear and tear on the retorts. With steam, the carbon formed is of an amorphous nature, which requires less time to burn off, and is easily removed with a bar, causing less wear and tear to the retorts.

The gas analyses indicate that the general quality of the gas is improved. Without steam, the percentage of hydrogen, hydrocarbons, and the proportion of benzine in the hydrocarbons, all indicate high heats. The coal gas made in inclined or horizontal retorts will contain from 10 to 15 per cent less hydrogen and from 1 to 2½ per cent more hydrocarbons with a smaller proportion of benzine (from ¼ per cent to 1/3 per cent). In the vertical retorts the hydrocarbons are probably broken up into hydrogen and carbon, the latter being deposited on the sides of the retorts.

In using steam we find that the gas contains about 3 per cent more carbon monoxide and 0.5 per cent more hydrocarbons with less benzine. The hydrogen is about the same or a trifle lower, whereas an increase equal to that of carbon monoxide would be expected. Since there was a general increase in the amount of gas made, there probably was an increase in the hydrogen due to the steam, but the amount of hydrogen formed by cracking of the hydrocarbons was less. Therefore, the net result would be no increase in the per cent of hydrogen. These facts would indicate that the steam had a tendency to "soften" the heats in the retorts.

Assuming that the increased amount of gas made was due to steaming, then from the increase in the gas made, only 24 per cent of the steam used was converted into water gas. On the other hand, if the increased amount of gas is assumed to be all water gas, the carbon used was 1,343 pounds per day. This is equivalent to about 1,625 pounds of coke as calculated from the carbon in the coke, shown by the analysis of the coke from the test without steam, in Table 3. The above amount of coke is about 1.9 per cent of the total coke produced. The coke analysis given in Table 3 shows practically no loss in the carbon content of the coke. These results indicate that the steam in passing up through retorts passes around the walls of the retorts instead of up through the coke itself. Any increase in the amount of gas made is probably due to the steam reacting with the carbon deposited on the walls of the retort.

Table I—Gas Analyses

	Without Steam	With Steam
Carbon dioxide	1.23%	1.69%
Ethylene	1.07	1.65
Benzene	.97	.95
Oxygen	.00	.00
Carbon monoxide	7.92	11.16
Methane	27.33	24.67
Hydrogen	57.69	56.18
Nitrogen	3.80	3.70

Table II—Coal Analyses

	Federal	Ocean West	Wendell Morland	Aver.
Moisture	1.57%	1.21%	1.08%	1.29%
Volatile	35.70	34.08	36.33	35.37
Ash	8.61	8.14	8.17	8.31
Sulphur	1.54	1.67	2.44	1.88

Table III—Coke Analyses

	Without Steam	With Steam
Moisture	.12%	.22%
Volatile	3.94	3.45
Fixed Carbon	81.75	80.97
Ash	14.19	15.36

It was impossible to get any accurate figures on the effect of the steaming on the tar and ammonia production, as there was no means of separating them from the tar and ammonia made by the incline retorts and another bench of vertical retorts that were being operated at the same time. Some tests were made, however, on the ammonia in the gas leaving the retorts. The results that were obtained showed that steaming increased the production of ammonia about 12 per cent.

It is doubtful whether there is any advantage in superheating the steam by passing it through a pipe placed in a waste gas flue, because the life of an iron pipe under such conditions is not very long.

Conclusions

The following conclusions may be drawn from these tests:

1. Steaming with continuous vertical retorts is feasible. The yield of gas can be increased about 20 per cent with practically no loss in coke.

2. The calorific value of the gas is reduced between

3 per cent and 4 per cent, and the candle power about 25 per cent.

3. The yield of ammonia is increased about 12 per cent.

4. The formation of carbon on the sides of the retort is reduced between 40 per cent and 50 per cent. The carbon that does form can be more easily and quickly removed, thereby effecting a marked improvement in the operating conditions.

5. Steam may be used to advantage with through horizontals or inclined retort. While the increased yield may not be as much as with the vertical retorts, there undoubtedly would be less carbon formed on the sides of the retorts, and in cases where considerable trouble is experienced with stoppages in the stand pipes, it will be eliminated to a great extent.

Stoppages in standpipes are generally caused by the high boiling tar oils condensing on the sides of the standpipes. On flowing down, the oils are cracked by the hot gases coming from the retorts, depositing carbon. The presence of an excess of steam in the gases leaving the retorts would tend to lower the partial pressure of the high boiling tar oils, which would enable them to be carried as a vapor into the hydraulic main before condensing. The same principle is employed in distilling tar where steam is blown into the hot tar in order to drive off the anthracene oils.

What One Big Business Didn't Know About Its Motor Transportation*

What Route Riding Will Reveal — Regarding Motor Truck Equipment in Much the Same Manner as Horse-Drawn Equipment a Costly Mistake

Picture to yourself a company handling its group of staple products from direct importing of raw material to direct distribution among merchants.

It is perhaps the largest concern of its kind in the world, growing out of small beginnings two generations ago.

Its founders were personalities—pioneers in planning, two-fisted men in a business fight. Competition brought many a stand-up and knock-down battle.

At no period in this business has the going ever been easy. Profit margins were always narrow and shrinking, as is characteristic of staple necessities. Each year's earnings depended upon ever-increased volume of business, with the most minute and accurate cost records for every department, so that economies might be effected and leaks stopped. The best technical minds available were centered on each phase of the business, from the testing and purchase of raw materials abroad through the intricate processes of the factory, and right up to the packing of finished goods for shipment at the factory door.

Now, picture this successful business with a fleet of sixty motor vehicles used for its deliveries and general hauling.

Why Motor Transport Efficiency Did Not Harmonize

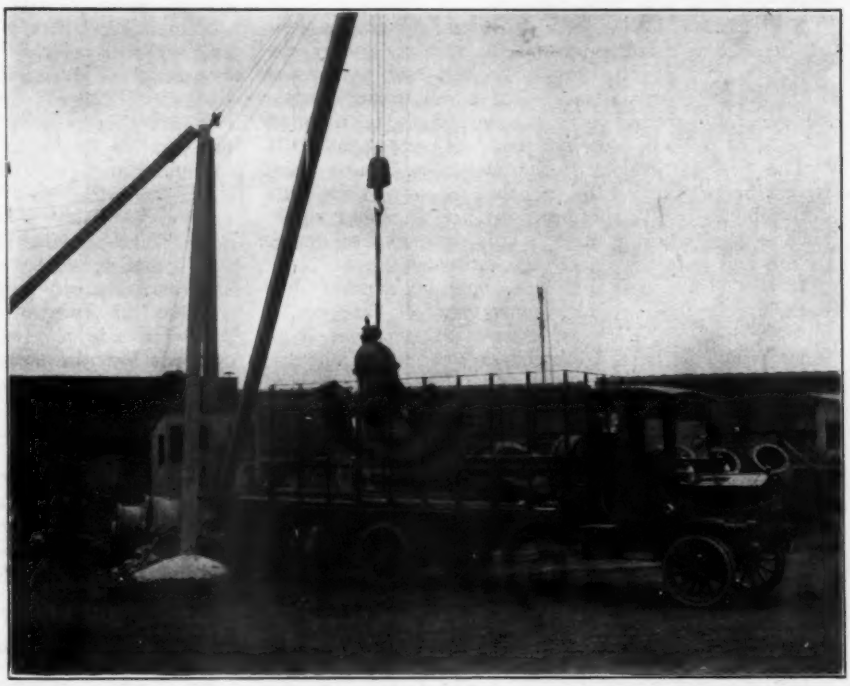
Almost by chance the management discovers that the motor transport is far below the standard of efficiency maintained in its manufacturing and distribution. Distinctly there is a motor transport problem—or seems to be, for accidental comparison of two sheets of cost figures arouses a suspicion as to the efficiency of one section of the motor transport, at least. But it is found that records do not furnish a basis for thorough analysis, because they are incomplete.

At this point the company's motor transport problem was submitted to experienced transportation engineers, with a request for investigation and suggestions.

And here is what the engineers learned:

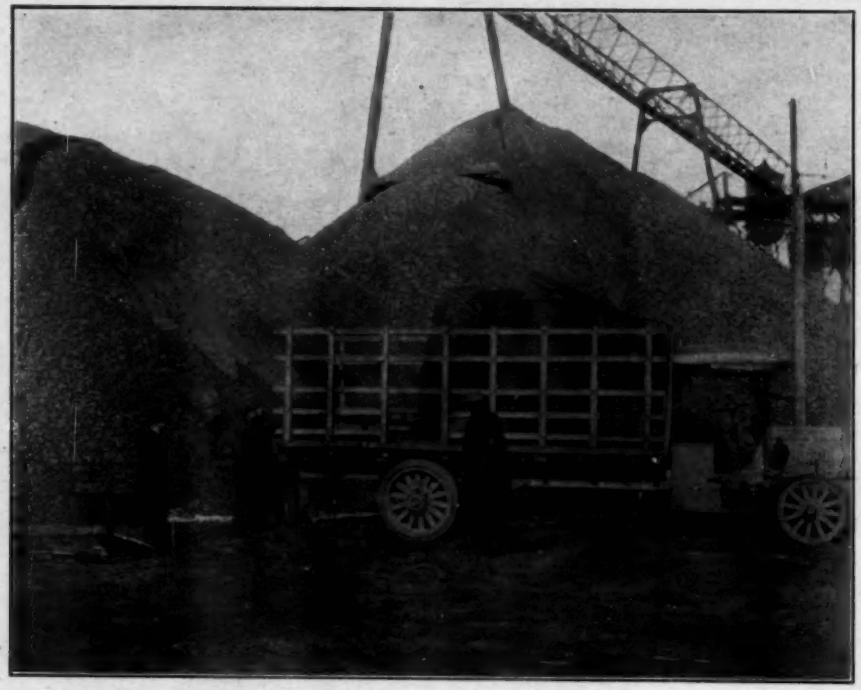
The motor equipment is operated in two widely separated cities. In each city the company has good garage facilities and in both places a system of cost records had been developed.

But the system followed in each place was different. Both sections of the motor fleet were under the supervision of men who had risen from the ranks of drivers. Their experience in operation, mechanical upkeep and management of men was excellent. They were entitled to commendation for high standard in keeping equipment



A GIB HOIST ADDS A DAY A WEEK TO THE DELIVERY TIME OF THIS GAS COMPANY TRUCK

*Copyright by Transportation Engineering Department, Packard Motor Car Company.



LYNN GAS & ELECTRIC COMPANY FINDS EXPENSE OF MECHANICAL LOADING DEVICE COMPENSATED FOR IN SAVING OF TRUCK TIME

actually at work, and for good human organization.

But they were not familiar with accounting, much less scientific cost management, and when each devised his own cost system it was naturally limited to details with which he was most familiar.

For example, blanks were provided for keeping track of items like gasoline, oil, tires, repairs, garage expense, wages of chauffeurs, helpers and mechanics. From these records a sincere effort was made to figure out general operating costs, in miles, tons, days of operation, cost per mile, cost per ton, cost per ton mile.

The first inspection of the motor equipment itself by engineers revealed the fact that not one of the sixty odd vehicles had a speed or distance recording appliance in good working order. This reduced the figuring of ton and mile costs to rough estimates.

It was also found that rule-of-thumb methods had been largely followed in keeping track of gasoline, oil and the like. A clerk intrusted with recording these items would perhaps ask a driver how many miles he made to a gallon of gasoline, and if the driver replied "About two miles," the busy clerk in good faith said. "Well, you had twenty gallons of gasoline to-day, Jim, so you must have run forty miles." And forty miles would probably be entered on the records as the performance of that truck that day.

Difficulty of Making Comparisons Without Uniform Cost System

A motor fleet of that size naturally consumes large quantities of supplies, such as tires and parts. In neither garage was there any stock-keeping system for supplies. No correct inventory had been made for years, and no correct pricing of the different materials for quick, accurate debit entries against each motor. The company is compelled to merchandise its products in the light of accurate cost records and pricing. But it had never made any effort to merchandise the supplies used in its motor fleet.

Suppose that each garage superintendent had worked out a satisfactory system of records for the above items, and that they were faithfully accounted for day by day. Even then, with a lack of uniformity in the two systems, it was impossible to make fair comparisons—when the general management tried to run down obvious discrepancies the cost records were not capable of comparison.

Furthermore, both systems were deficient in monthly and yearly summaries, whereby identical items of experience could be compared, one month with another, and one vehicle with another. Thus, hundreds of wastes and leaks were possible, and could not be corrected because they could not be found. For the same reason, many genuine economies and efficient operating methods were concealed, and could not be brought to light and turned to advantage.

This company's motor equipment includes vehicles of various makes and capacity. Records did not show which makers' cars were most efficient, nor the sizes and types of vehicles best adapted to that business.

Among the sixty-odd drivers there was a wide range of ability. Records did not reveal the incompetent man, nor furnish a basis upon which to overcome his shortcomings by instruction, or by directing his attention to important factors of operation. Nor was it possible to discover the most efficient drivers and make their methods available to others. Real injustice was often done drivers, because they could not be given credit for skill, carefulness, economies of fuel and supplies, and other praiseworthy service to the company.

What this company learned from a verbal report, following a brief investigation of garage records and methods by transportation engineers was, that it had never secured a clear mental picture of its motor equipment, much less of its *motor transport* requirements.

Engineers were asked to put the picture together.

They began by ascertaining the kinds of qualities of material to be hauled by motor, and made a study of the territory to be covered with reference to distances, systematic routing, character of pavements and roads, branch distributing points, facilities for quick loading and unloading at freight terminals, customers' premises, etc.

Inventory of Equipment in Use

Then followed an inventory of motor equipment in use—make, type, capacity, age, conditions, kinds of bodies, and general suitability and to service require-

ments. This included a study of idle equipment during slack periods, and a maximum use of motors during busy periods, with investigation of outside trucking service required in busy seasons.

With this groundwork of ascertained fact, engineers were then assigned to ride routes with drivers, keeping accurate route records of gasoline, oil and supplies, mileage, time spent on each trip, time of loading and unloading, time lost by delays of every kind, whether due to mechanical mishaps or outside causes, such as waiting at terminals or customers' premises.

This route riding made it possible to clearly visualize the general transport situation. Route records were worked out in terms of cost and hours, with almost startling discrepancies revealed in actual ton mile values between two vehicles which had been credited with identical performance.

It was found that, because garage superintendents had no trustworthy figures of cost for vehicles of various types and capacities, that freight hauling and delivery service were not clearly separated, and vehicles of widely different character were used indiscriminately for all classes of service. Route riding on a heavy truck might reveal the fact that it was subjected to too many stops and waits, by reason of the kind of freight carried. Lighter vehicles were used in hauling solid loads over direct routes when they should have been assigned to mixed loads with many stops to relieve large trucks of peddling work.

Opportunities were also found to get drivers' viewpoints on important matters, such as causes of delay at terminals, mechanical mishaps to equipment, the efficiency and dependability of different motors, the convenience of bodies and loading and unloading devices, their feeling toward the company, their interest in efficient operation, and so forth.

As an upshot of this investigation the company is now using a National standard cost system adopted by the Truck Owners' Conference, which is recognized as fully covering every essential point of motor transportation costs, and possessing a flexibility which permits its application to motor transportation plants of every size and character.

It now recognizes the difference between motor trucks as an important auxiliary service, tacked loosely to the outside of its business, so to speak, and *real motor transportation* as incorporated into the business, taking its place as part of the whole process of production, from import of raw materials to final customer deliveries.

Taking this view, motor transportation is machinery. It eliminates hand labor, boosts up output, reduces cost. It demands study as machinery. It demands scientific management, as well as cost keeping. It is an intimate part of the industrial equipment and the factory process, and should be so regarded. Only on that basis will it yield maximum production, and any other basis of operation is unfair, both to the motor equipment and the business itself.

In delivery and hauling by horse and wagon, the equipment was looked upon as an auxiliary—if not a necessary evil. Investment in a horse and wagon was small compared with the motor truck. The average motor truck represents an investment of at least $3,000, while a horse will cost about $350 and a wagon about $500. Motor trucks operated by the business concern whose experience was dealt with above, cost upon the average $6,000 each. The horse has a limit of travel and work—he will haul one and one-half tons maximum, about eighteen miles a day. He could be driven ten or twelve hours daily, and then had to rest. When he was not busy his owner felt satisfied, because he was at least resting, and could later be called upon for work. The relatively smaller cost of investment and driver's wages led his owner to look upon loss by idle time as negligible.

When motor vehicles were substituted for horse equipment the owner persisted in regarding them upon much the same basis—as auxiliaries of the business instead of costly, high capacity machinery of an entirely new type. A five-ton motor truck will travel, on the average, fifty to sixty miles a day, carrying from three to four times the load of a horse truck. It requires no periods of rest but can be kept running twice as many hours as a horse

In other words, it is modern high power equipment, and requires an entirely different viewpoint.

Publications

Natural Gas: Its Production, Service, and Conservation

Part 7 of Bulletin 102 issued by the Smithsonian Institution on the Mineral Industries of the United States. Paper; 10 x 6 in.; 74 pages; illustrations from halftones, diagrams, charts and maps. Author, Samuel S. Wyer, of Columbus, Ohio. Obtainable from the Smithsonian Institution, Washington, D. C.

Anyone who wants to "know all about" natural gas, from the gas sand cradle to the heating appliance grave, can find in this bulletin everything that he ever knew and perhaps much that he didn't know. But what Mr. Wyer mainly wants both producer and consumer alike to understand with respect to this extremely useful product is that we are wasting vast quantities of it and that something had better be done to conserve it, or we shall lose much heat which ought to be cooking thousands of meals and holding back the advances of old John J. Frost.

According to the author, mankind could waste its natural gas supply in a separate and distinct way each day, and keep this up for three weeks without repeating, for under the four classifications of drilling wastes, well operation wastes, transmission wastes and utilization wastes we find catalogued no less than twenty-one tried and true methods of successfully bringing about dead losses. Hearken to these expert opinions which the author borrows to make his point clear:

"The history of the natural gas industry of the United States is an appalling record of incredible waste, but it must be told, in order to explain the need for remedies proposed."

"Of all the pieces of extravagance of which the American people have been guilty, perhaps their reckless and wasteful use of natural gas is the most striking—not the most important—but the most striking. This product, severely limited in quantity, which can last only a few years at most, has been handled as if it were illimitable."

"In my own State, West Virginia," says another expert, "only eight years ago, not less than 500,000,000 cu. ft. of this precious gas was *daily* escaping into the air from two counties alone, practically all of which was preventable by a moderate expenditure for additional casing."

Many of the "drilling wastes" result from improper casing, but others are caused by not closing wells promptly, loose packers, crude and inefficient gas burning appliances used in well-drilling boilers, open-flame torches, offset wells and the improper plugging of abandoned wells.

In the operation of natural gas wells much gas is wasted by oil operators "blowing off" the gas in order to procure the oil. At other times, wells which must of necessity be "blown" to get rid of water are often left open far longer than the occasion warrants, with resulting wastage. Salt water troubles and a too rapid lowering of the rock pressure are also blamed for many preventable cases of waste.

Leakage is, of course, the principal source of waste in the transmission of natural gas to the consumer, but failure to provide enough properly located measuring devices is responsible for much of this. Gas which, because of inadequate drying, contains gasoline and water vapors has to be blown out along the lines of transmission, after the vapors have been precipitated in liquid form, and this is another source of waste which could be prevented by the installation of gas drying plants.

The selling of natural gas to consumers at a flat rate of so much per consumer is placed at the head of the wastes of utilization, but what is believed to be the very largest waste in connection with the use of natural gas results from the low price made to industrial consumers. Natural gas for manufacturing purposes is so cheap that there is no incentive to use it in an efficient manner. Another utilization waste somewhat akin to the last-mentioned is the offering by towns of free or ridiculously cheap gas to manufacturers as an inducement to locate in the vicinity. The manufacture of carbon black is held to be an "improper use" of natural gas rather than a waste; nevertheless the carbon black industry of West Virginia uses 50 per cent more natural gas than is furnished to all the domestic natural gas consumers of that State. The use of natural gas without mixers, as in the fire-pot of an ordinary coal furnace instead of a correctly designed gas furnace, is another important source of waste. Still another arises from the absence of thermostats in many homes, for where natural gas is sold at low prices, "the practice is all too common of lowering the temperature of an overheated room by opening a window rather than by lowering the gas fire." Finally, the author holds that discounts for low pressure stimulate waste. In a number of instances he points out, consideration has been given to a penalty clause providing for a discount when pressures lower than four ounces are maintained. This has the immediate practical effect of lowering the price of gas during the "peak load" period, for the well-known human nature reason that what is made cheap will not be saved. When the consumer believes that his bills will be lower he will attempt to use more gas than he otherwise would, and in this way the cumulative effect will be to still further lower the standard of service to all, in addition to using the gas in a wasteful manner at a time when every thought should be for conservation of the highest order. "Whatever may have been the motive for the penalty clause," the author says, "there can be no doubt but that its effect is abortive."

After making it plain that it is the public who, in the end, pay for wasteful operation of natural gas wells, the author goes into a detailed consideration of the separate sources of waste and methods for preventing them. The entire work, while delightfully non-technical (so that the consumer may be inspired to read and profit thereby), is nevertheless well worth the close attention of all those engaged in mining and marketing natural gas, for it is the intention of our Government that each shall "do his bit" toward putting an end to the shameful waste of a valuable resource, and it would be well to make the necessary changes in practice voluntarily rather than under compulsion.

Electricity Controls Gas Used in Battery of Big Core Ovens

In a large plant in the western territory, a user of both the electrical energy and the gas supplied by the Public Service Company of Northern Illinois, electric power is made to control gas employed in important duty. Though electric control of gas valves and certain other appliances is not unknown, the work performed by the energy in this instance shows novel features.

The plant referred to includes in its equipment fourteen ovens wherein castings are baked. These ovens, each nine feet wide, are arranged side by side, thus stretching over a length of 125 feet. Gas, fed in at the rear, is used for the production of the heat necessary. At the inlets, blower fans are fixed, their function being to supply the necessary air quantity to secure the proper combustion mixture.

Formerly the details of lighting and shutting off the gas, starting and stopping the fans, etc., were all attended to by workmen. Obviously there was a considerable element of hazard present since these various operations were dependent one on the other. Engineers of the Public Service Company have worked out and installed a device which greatly reduces the labor and detail of hand control and likewise increases the safety factor.

It is an automatic device in connection with the electrically operated gas valve. When the motor fan which furnishes air to the furnace is shut off either by hand or interruption of service, the device closes the valve shutting off the gas.

This is accomplished with a low voltage release coil that drops when the voltage is off the motor, closing the circuit which shuts off the valve. It has two auxiliary contacts which at the same time open the circuit to the opening solenoid of the valve. This furnishes an interlock, in case at the time the voltage is taken off the motor, the thermostatic control on the oven is in position to open the valve for more heat.

Fort Worth Gas Company Earns $273,769

The 1918 report of the Fort Worth Gas Company, shows gross earnings of $273,769.75 and total operating cost of $197,083.49. The bonded indebtedness of the company is $691,000, bearing interest at the rate of 6 per cent.

AMERICAN GAS ENGINEERING JOURNAL

SIXTIETH YEAR

Published Weekly by AMERICAN GAS LIGHT JOURNAL, INC., 150 Nassau Street, New York, N. Y.

ELBERT P. CALLENDER, Pres. S. G. KRAKE, Vice-Pres. FREDERICK A. SOUTHWORTH, Sec'y-Treas.

EUGENE C. MILES, Editor

Subscription $3.00 per year, including postage in the United States, Mexico, Cuba, Porto Rico, Hawaii or the Philippines

In Canada, $4.00 Foreign, $5.00 Single Copies, 10 Cents

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As the Journal Views It

Showing Us the Other Side

In the past few years the AMERICAN GAS ENGINEERING JOURNAL has made special efforts to secure and publish descriptions of gas-lighting installations displacing electric lighting in public buildings, churches, show places, etc., wherein the element of economy does not enter but wherein, on the contrary, effect and modernity is the paramount consideration.

This policy was not prompted through malice towards the electric industry, or from conceitful gloating over a setback experienced by a competitor. It was deliberately determined upon for the reason that we have felt the gas man has tended to be content with second place in the lighting field; to be satisfied, one might say, with the leavings, provided he was permitted to exist. He had lost his sense of proportion in the lighting business—was beginning to incline to the view that his lighting market was confined to the cellars, cheaper stores and the tenements.

Now, as a matter of fact, gas lighting is no less to-day a principal illuminant than it was forty years ago. The difference is that it no longer occupies the pinnacle alone, but shares it with a lusty competitor who, in any case, can offer sufficient arguments in his favor to at all times make him worthy of very deep consideration.

He has captured most of our modern churches.

We have wondered why in the past, and Philmer Eves in his paper at the convention of the New England Association of Gas Engineers makes us wonder still more. The arguments for gas lighting in such places that he lays down appear so entirely overwhelming that it would seem that only extraordinary cleverness in salesmanship could enable the electric-lighting companies to secure even a small part of this business.

Mr. Eves emphasizes the mellowness of the light shed by gas lamps. What more important recommendation for a church could be advanced than that?

Salvaging men's souls is a business just as much as manufacturing gas. It is a business that requires auxiliaries, just as does the business of selling gas. It is a business, furthermore, in which success becomes every day more difficult.

With education becoming actually common and with the activity of men's minds being thereby increased, the task of the pastor in the very few hours a week or a month he is given to operate on his subject is rendered very difficult indeed.

These activated minds range farther and farther away from the future life as the material life expands in years. For six days in every week, and in most cases part of the seventh, they are occupied with thoughts that should be foreign to religion, not sinful thoughts necessarily but essentially material.

It would be an ambitious undertaking for the clergyman, by sermon or exhortation alone, to bring these thoughts in a brief space so endurably back to religion that the adult human will have as vividly in mind at his deathbed the things taught him in childhood as he did before he got deeper and deeper into the all-engrossing tasks of eking out an existence and accomplishing something.

The pastor must employ auxiliaries, these being encompassed in the term "church atmosphere." This is created in part by the hymns that are sung, the organs that sound, and in no small way by the illumination. It is these things that attune the mind to a receptive absorption of the preachings of the pastor.

A light that is merely efficient, a harsh light, a purely mechanical light, cannot conduce to this effect. It is not sufficiently apart from the material. Mellowness of light is an essential. It is not for nothing that light from wax candles still furnishes a good part of the illumination in many churches.

Mr. Eves emphasizes another important point. "Its operation," he states, "is pre-eminently valuable as a means of aiding the ventilation by warm currents from the burners drawing the vitiated air above the breathing level." This is an obvious and proved fact.

On these two points alone gas lighting, we are convinced, in combination with modern, appropriate and attractive fixtures, could be sold to any church. Such fixtures are to-day readily available.

Emerging from the Shell

None of us are fond of the boaster. And it is easy even when stating facts to lay oneself open to the suspicion of being such.

Yet no industry which is exclusively engaged in public service, can expect to win sympathetic understanding or acquire good will unless more is known about its attitude and willingness to serve than is revealed on the premises of its individual consumer.

In fact it may well be said, other publicity efforts being absent, the company whose service is absolutely perfect is the surest of slipping completely from the public mind. People do not think of meters, ranges, lights, etc., when everything is perfect. They take them for granted and do not inquire as to their source.

The gas industry must, through the medium of the printed pages and other mediums, keep its public informed as to what it is doing, the exceptional things and the things that are not required by the terms of its franchise which in most cases are many.

Theoretically this should not be necessary. When we personally have an especially diligent and deserving employee we rather feel ourselves obliged to boost his cause in every way possible. Otherwise there would be no advantage to merit.

One would think when a gas company rendered meritorious or unusual, by law uncalled for, service, the public authorities and the local press would leap to the opportunity of telling the public how unusually good it is. Besides being plain justice this would seem to reflect credit on the community and especially on the public authorities under whose jurisdiction it operates.

But such things in the practical working out are not so. We have here and there a newspaper which has won thousands of readers through the deceitful pose that it stands the great watch dog of their interests. It could not maintain that pose were the people to believe the big interests—and a gas company must of necessity be a big part of the community it serves—were not constantly tugging at the leash, plotting what evil they can do.

We have also the public service commissioner who has lost sight of the fact that he is in reality a referee and not a prosecuting attorney. This man has discovered that with the mass he wins favor when he regulates downward and odium when he regulates upward. For the mass is unthinking and does not stop to reflect that the gas company cannot produce something from nothing. But there is a thinking element that the politician must consider as well. While he plays up to the unthinking mass he must not conflict with the sense of justice of the thinking few, for these too have potentialities.

If the thinking few know the gas company is honestly striving to do its job it will not tolerate its being hounded.

Thus practical considerations, self-interests, obtrude to engender a disinclination of the local press and some public authorities to advertise, unless absolutely unavoidable, the good works of the gas company.

Thus the gas industry is thrown back upon its own resources. The good works of its constituent parts must be made known to the public. And to it the task is doubly difficult. It must tell the story, but so skillfully as to avoid the accusation of boasting.

The Day of Reckoning

What is the matter with the regulatory commissions?

Where are the utility men who yesterday maintained that their establishment was the best thing that ever happened for the utilities as well as for the public?

Throughout the land, with a few notable exceptions, there is marked dissatisfaction with the regulatory commissions, both on the part of the utilities and on the part of the public. Dissatisfaction that is manifesting itself amongst the public through demands for total abolishment of the commissions, revision of its powers or changes in its composition, and on the part of utility men by grim despair, utter discouragement.

The fact of the matter is, the utility commissions in general have not functioned as theoretically as they should have functioned. Too often their memberships have been composed of men too weak to so function.

To the public the regulatory commission has been principally represented as an instrument for lowering rates. The commissions catering to mob popularity have not been intelligent enough to make clear to it the other side; the obligation to raise rates if need be to insure good service.

The opportunity for the regulatory commission to cater to the desire for decreased rates was sufficiently ample to, except in a few cases, without flagrant injustice, provide enough demonstrations of its rate lowering effectiveness to still further stamp itself in the public mind as a decreasing instrument.

But these were in the good old jogging days of peace. Decreases quite often cut earning power to the minus point, and the minds of utility men were stirred up actively to in some manner make good the deficit. The means were found in greater efficiency and the balance was restored.

But along came the trying times. The materials whose costs were the basis of the established rates soared in cost. The balance was knocked akimbo.

Then the regulatory commissions reaped the inevitable. What a pitfall it proved that they had permitted the public to regard them merely as rate lowering bodies.

The facts the utilities presented were obvious. There must be increased rates or there could not be service. Grudgingly and by fractions they were granted. And because they were granted the public in some localities, not understanding, demands the heads of the commissions.

These indeed are sore days for the regulatory commission. But the worst is not past.

The public demands of them not only low rates, but superlative utility service.

Every one expected shortcomings during the stress of war. Some few relatively expect them to continue for some months to come. But no one expects the standard of utility service to be lower two years hence than it was three years ago.

But inevitably it must be.

Communities are growing. The plants of the utilities in general have not grown. Because they have, through many trying months, gained little or nothing beyond costs they will not be able to grow for a year or more to come at the very best.

Communities will outgrow their utilities. This alone would make for inadequate service. Lack of elasticity financially due to starvation rates will complete the collapse.

The regulatory commissions still have the opportunity of saving themselves from being a contributory factor to what may conceivably well be a national disaster. But they must act quick to do so. They must act with courage and forget they are politicians; remember only that they are citizens.

2,359 Employees of Consolidated Company Entered Service During War—298 Men Have Returned to Various Positions

Two thousand three hundred and fifty-nine employees of the Consolidated Gas Company of New York and its affiliated gas and electric companies entered the service of the United States during the war. As far as can be learned at this time, fifty-seven of these men were either killed in action or died of wounds or of some malady. A few men are still counted among the killed or missing. There have been reported to the companies the names of about sixty cases of wounded and "gassed" men. Many are seriously wounded, some of whom, according to latest reports, are still in the hospital, either in France or in England. One man who had sixty-seven pieces of metal removed from his body is on the road to recovery. Two hundred and ninety-eight men have already returned to the employ of the various companies.

Peterson Would Like to Be an Officer

Claims He Is Not Seeking Self Aggrandizement but Directors Disagree—The Situation at Blankville Not Yet Improved

By S. G. ADDISON

The disappointment caused by the letter from Peterson declining the proffered position of commercial manager at Blankville (AMERICAN GAS ENGINEERING JOURNAL, Feb. 1, page 95) immediately gave place to annoyance when Peterson's telegram reached the hands of the "Old Man." This was the first time in his life that the "Old Man" had found it necessary to seek a man. Always before the men he had needed had sought him. Whenever he had a vacancy a man could take it or leave it, whichever he chose. The "Old Man" had laid down the conditions and set the salary.

Now, however, things were different. The ending of the war had made it necessary to reorganize the new-business department. Percival Pepper, the last commercial manager, had proven too small gauge a man to meet the new conditions. There was no one on the list of previous commercial managers who could fill the bill but Peterson, the man who had been discharged as a "nut."

STRANGER COULDN'T DO IT

It would not do to entrust the work to a stranger. The work that Peterson had done while with the company showed that he was by far the best man available. He had declined the offer that had been made to him, however, and the "Old Man" had written him to come to Blankville, at the company's expense, for an interview. It was the telegram that Peterson had sent in answer to this letter that was making the "Old Man's" face so red, that was making him so angry. Again and again he read these words:

"Will come to Blankville Saturday if can meet all directors."

It had never been the policy of the Blankville Gas Company to allow applicants for a position to lay down the conditions of their employment. It was an unheard-of thing to have such an applicant request a special meeting of the board of directors in order that he might tell them just what he would do and they would have to do if he accepted employment with the company.

"He is a 'nut' all right," grumbled the "Old Man." "It was enough to turn down my splendid offer and letter of apology for firing him without adding this. If there was any other man who would do, if I had not set my mind upon getting his services, I would wire him that the position is no longer open. We have got to have that man! I'll get the directors together and we will see what we can do with him."

PETERSON WANTS A COMPLETE UNDERSTANDING

The following Saturday Peterson arrived in town, the directors assembled in the directors' room, and the "Old Man" opened the meeting with these words:

"Gentlemen, as you all know, Mr. Peterson served us as commercial manager several years ago. At that time we could not agree with many of his ideas; they appeared too radical to us. He left us and went with another company, where his record has been good. To-day conditions have changed. Many of us have also changed our views. The time has come when we need the services of just such a man as Mr. Peterson. As you are already aware, I have made Mr. Peterson an offer, an offer which all of you think is splendid. He has not accepted it and has insisted upon presenting his views to all you gentlemen before making his decision. The situation has seemed sufficiently important to call you together to-day and to give Mr. Peterson this opportunity to talk to you. I am now going to call upon Mr. Peterson to say what he wishes to say."

Peterson stood up and said:

"Gentlemen, at the start I want to make it clear to you all that I hold no ill-will toward any of you for the part that you may have had in the unpleasantness connected with my leaving this company. What I do wish to impress upon you all is that I am very anxious that no such unpleasant experience be repeated. That is the main reason why I have insisted upon this meeting before making a decision.

"The salary which you have offered me is entirely satisfactory. I lived in this city long enough to have made many friends here. I would be very glad to come back here again to take up my residence. These things, however, are not enough. Some of you gentlemen already know my views in regard to the new-business work of gas companies. Gentlemen, my old views have not changed. The more experience I gain the more convinced I am that I am right.

DOESN'T WANT MUCH, AFTER ALL

"I am convinced that no new-business department of a gas company can be truly successful unless it devotes from two-thirds to three-quarters of its attention to looking out for the interest of the consumers and only the third or the quarter that is left to looking out for the interest of the company. I sincerely believe that unless gas companies do have departments like this, departments that are really looking out for the interest of the consumers and are giving the consumers their first attention always, there is nothing that will prevent eventual municipal ownership.

"Gentlemen, how can a commercial manager conduct his department along these lines if his wings are clipped, if he is not given a free hand, if he has no voice in what the policy of the company shall be? If you will make a study of large industrial and commercial concerns, concerns that have grown rapidly during the past ten years, concerns that have grown rich, you will discover that these concerns consider the business-getting department one of the most important departments of the concern. You will find that the men at the head of these departments—the men who get the business, who build up the revenue—hold very responsible positions in their companies. They are general managers, presidents or vice-presidents. They are men who have a real voice in the affairs of the company. They have a say in what the policy of the company shall be. In some cases they even dictate what products shall be manufactured and how they shall be prepared for the market.

"Gentlemen, there are three grand divisions of business. There is the production end, the financing end and the selling end. In this classification I include in the production end everything that goes toward getting the product ready for the customer. In the gas business this would include not only the making of the gas but also the building and maintaining of the distribution system. Under the financing end I place everything that has to do with money. This, as you can readily see, includes the accounting department. Under the new-business end I place not only securing new business but also what we call in the gas business public relations and what they would probably call in other industries sales effort.

Wants to Make His Department a Vital Link of the Business

"Gentlemen, the man who has charge of the production end of this company is your president and general manager, the man at the head of the financial end is vice-president and assistant general manager. As a matter of fact, all the important departments of the company have a representative among the officers of the company with the exception of the commercial department.

"Has it occurred to you, gentlemen, that this action demonstrates that you do not consider the commercial department as an important department? Do you realize that it indicates that, in spite of all that you may say to me to the contrary, you are asking me to accept a position which in the past you have not considered a highly important one and which in the bottom of your hearts you do not consider highly important to-day? To-day you are in trouble. You must do something to offset the falling off in revenue that is bound to result from the loss of the war business if dividends are to be continued. Are you sure that you will be as anxious to have a highly efficient sales force when this job has been accomplished and things are going along smoothly again?

"I am doing well in my present position. The company I am now with believes in my methods. It is a company that places the commercial department upon a far higher plane than most gas companies. However, I do not think that it places this end of the business on a high enough plane; that it fully realizes how vitally important the commercial department really is. I am not working for money alone. I had rather accomplish big and lasting results than to receive a big salary with no opportunity to show real results.

"I know that you will give me a free hand here. I know that I will be able to show results. I believe that you gentlemen are coming to look upon the commercial end of the gas company in much the same way that I do. If you were not you would never have sent for me. You know me; you know what my ideas are. The fact that you have offered me this position shows that you have confidence in me. There is now but one thing that is standing in the way of my coming back to you.

"Gentlemen, my business is selling, is building good-will, is advertising to the public. You have offered this position to me; you have convinced me that you believe in my methods, that you will give me your hearty support, that if I come back to you our relations will be pleasant. But, gentlemen, you have not advertised to the other departments of your company that you believe that the commercial department is just as important a department as any other department in the company. How am I going to get the co-operation from these other departments that I will need to win the greatest success if by your acts you have shown that you deem the other departments more important than mine?

"As I have already stated, practically all the other important departments of the company have at their head a man who is also an officer of the company. The commercial department has never been directed by an officer of the company. It therefore is easy to reason that the commercial department is not considered as important as the other departments. The men in the other departments are sure to reason this way. How am I going to convince them that this is not the case?

"Gentlemen, I am not looking for great honors; I am not looking for an unreasonable salary. I am looking for an opportunity to accomplish results. I know that I can accomplish them here. It is the greatest possible results that I want to accomplish, and I want the way to those results made as easy as possible. There is just one thing that I am going to ask you to do before I accept this position. That thing is to make me an officer of the company. The office which you appoint me to does not matter so much as the fact that I will appear as a real officer of the company; that the commercial department will be placed upon the same plane as the other departments of the company. If you will do so I will accept the position and take charge here just as soon as I can leave my present company.

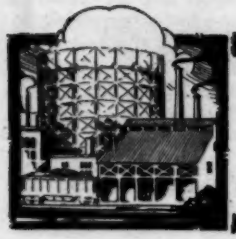
What's the Use?

"Gentlemen, I thank you for the honor you have conferred upon me by coming together to-day and giving me the time and attention you have given me. I hope that I have made my position clear to you and that you can understand why I am making this very unusual request; that it is the good of your company about which I am thinking, and not my own ambitions. Gentlemen, again I thank you."

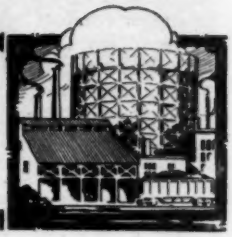
This talk having left the directors almost speechless, there was one decision. Only the "Old Man" succeeded in keeping his bearings. With superb presence of mind he declared the meeting adjourned.

Republic Company Authorized to Build Plant in Tonawanda

The public service commission recently approved the construction by the Republic Light & Power Company, Inc., in the town of Tonawanda, N. Y., of a gas plant, including the laying of mains for furnishing gas to the public and permitting the exercise by the company of rights under a franchise granted by the town on Aug. 31, 1918.



NEWS OF THE GAS INDUSTRY



Goshen High School Classes Visit Gas Plant

The Physics and Chemistry classes of the Goshen high school visited the plant of the Goshen (Ind.) Gas Company under the direction of Professor Kurtz.

Superintendent Jones of the gas company, explained to the students some of the details in the manufacture of artificial gas and gave many practical illustrations of the theories which are taught in the classes of the high school.

Boston Consolidated Output for February

The gas output of the Boston Consolidated Gas Company for February was 532,088,000 cu. ft., a decrease of 4.6 per cent compared with the corresponding month a year ago. The January output was 613,967,000 cu. ft.

129 Soldiers and Sailors Reengaged by Chicago Company

The Peoples Gas Light & Coke Company of Chicago, Ill., up to the present time has re-engaged 129 former employees, who have been discharged from the service. In addition to these employees are 42 returned soldiers not previously employed by the company, making a total of returned soldiers and sailors 171.

Southern California Company Seeks Approval of Commission for Purchase of Economic Company

The Southern California Gas Company of Los Angeles, Cal., has recently made a contract for the purchase of the Economic Gas Company, which plant is located in the downtown district of Los Angeles, and has applied to the railroad commission for the approval of same.

Missouri Association of Public Utilities to Hold Convention in May

The next annual convention of the Missouri Association of Public Utilities will be held in May, it was decided at a recent meeting of the executive committee. As the entertainment committee reported inability to secure boats for a river trip such as is usually made the occasion of the conventions of this association, it was decided to hold the convention at some Missouri city to be decided on later.

New Bern Company to Move into New Quarters Shortly

Progress is being made on the repair work in the building on Pollock Street, New Bern, N. C., to be occupied by the New Bern Gas Company. The building is being divided with a partition and the east half will be occupied at an early date by the gas company's offices. The gas company plans to have one of the most attractive showrooms in the city when they are settled in their new home.

Franchise Terms Given Southern Counties Gas Company

In a decision written by Commissioner H. D. Loveland, the Railroad Commission has given the Southern Counties Gas Company of California authority to exercise the rights granted it by a franchise given by Los Angeles County. The franchise covers a period of forty years and under its terms the gas company is privileged to lay gas mains and distribute gas in certain sections of Los Angeles County not served by any other gas company, a statement to this effect having been made to the commission by the company. The corporation has also made the usual agreement required by the commission that the franchise is never to be used in rate fixing proceedings at other than its actual cost, which in this case is $643.95.

American Gas Association Completes Program for Special Conference

The special conference of the American Gas Association, which has been summoned for Mar. 13-14, at the Hotel Astor in New York, has the distinction of being the first general gathering of the American Gas Association since its formation in June.

Special invitations have been issued to delegates of company members and to all committees, a combined list of some five or six hundred association members.

The possibility and advisability of creating an "Advertising Section" of the American Gas Association has been suggested and this matter will come up at the conference for a thorough discussion. Such a section would include in its membership the "publicity," "advertising" and display men of gas and manufacturing companies.

The executive board has ruled that an advertising section will be formed provided at least fifty members make written application for the creation of such a section and such action is approved by a majority vote of the active members at the March general session.

That the March conference will be well attended by representative men in the industry is clearly indicated in the number of acceptances already received at the association headquarters, to the invitation extended by the executive board to company members and committees.

PROGRAM AND ORDER OF BUSINESS

Mar. 13, 10 a. m., meeting called to order, President George B. Cortelyou. Vote to be taken on resolution which will be presented, to the effect that the American Gas Association be incorporated under the laws of the State of New York. Address, George B. Cortelyou, president American Gas Association. A

review of the important part which gas and manufacturing companies and individuals in the industry took in helping the nation during the war. An address which will strike as its keynote, the necessity of looking forward to meet the changing conditions of our economic and business life and will emphasize the importance of our industry's taking its active place in the readjustment period before us. "The Future Sales Policies of the Gas Industry and their Justification," by James P. Hanlan, chairman sales development committee, Commercial Section.

2 p. m.—Papers to be presented in behalf of the Technical Section. Address on important matters pertinent to Technical Section. Proposed scope of work by important committees. "What Shall be Done with Light Oil Plants," Chemical Committee. "Heat Balance of a By-product Coke Oven Plant," F. W. Sperr, Jr. "Heat Economics of the Coal Gas Plant at Rochester, N. Y." "An Analysis of Present Market Conditions," by Edmund S. Dickey, member of the managing committee of the Manufacturers' Section.

Mar. 14, 10 a. m.—"Shall an Advertising Section of the Association be Formed?" After discussion of this subject, a vote of members will be taken as to whether such a section shall be organized. "The Development of Industrial Fuel Business," by Wm. A. Ehlers, industrial fuel engineer, American Gas Association Staff. Open discussion on topics of general interest to the industry.

Hearing Held by Public Service Commission on Increase Petition Filed by Laclede Company

The war time difficulties of gas companies were again recounted at St. Louis on Feb. 21 at a hearing before the Missouri Public Service Commission on the petition of the Laclede Gas Light Company of St. Louis for permission to increase its rates for gas service to all classes of consumers 15 cents per 1,000 cu. ft. Granting of the increase is opposed by the City Counsellor and City Engineer of St. Louis.

The seriousness of the situation at St. Louis was revealed when Charles L. Holman, president of the Laclede company, in response to a question from an attorney as to what would be the consequences if the increase were not granted, said:

"I am almost afraid to state. They would be very serious."

After an all day session during which the president, general manager and chief engineer and the auditor of the gas company were questioned regarding operations, costs and financial condition of the company, the hearing was postponed to give the company time to prepare a statement covering its operations throughout the year 1918 as requested by the City Engineer. Final arguments on the petition, which has been pending approximately six months, probably will be heard next week.

Having obtained delay after delay in the rendering of a decision on the gas company's application, attorneys for the city again requested a thirty day postponement. In protesting against such a postponement Attorney Lionberger for the gas company told the commissioners that $10,000,000 bonds of the gas company will mature in May and that the company may not be able to meet this issue satisfactorily unless the increase is granted. He said the gas company was losing $2,000 a day through the commission's delay in acting on its application.

Attorney Lionberger, summing up the evidence presented, told the commissioners that the first half of 1918 was not so disastrous for the gas company, but that the latter half of the year threatened to put the company out of business.

J. L. Bulfin, auditor of the gas company, testified that the price of gas in St. Louis had been reduced from $3.25 per 1,000 cu. ft. in 1876 to 75 cents per 1,000 cu. ft. to domestic consumers and 45 cents per 1,000 cu. ft. to industrial consumers in 1918. This despite the fact that the city ordinances of St. Louis permit the company to charge a maximum of $1.25 per 1,000 cu. ft. until 1920.

Discussing the rising costs of production Mr. Bulfin testified that since Dec. 1, 1917, the Laclede company has increased the wages of its workers six times and that the total wage increase for 1918 was $393,000.

Attorneys for the city tried to bring out evidence to substantiate their statement that the Laclede company was trying to "saddle on the gas consumers the losses of the electric department of the company." They succeeded, however, only in bringing the statement from Mr. Bulfin that the 90 per cent of the expenses of the company were from the gas department and 10 per cent from the electric department.

Later when Chief Engineer Evans of the gas company was on the stand attorneys for the city asked him if figures he had submitted did not indicate that the company was selling electric power at a loss, considering depreciation, and that losses had not been considered in the charge for electricity. Mr. Evans testified that electricity was not being sold at a loss by the gas company, but that the company should receive a better price. He said the rates of the Laclede Gas Light Company for electricity were practically the same as those of the Union Electric Light & Power Company of St. Louis.

After Mr. Evans had described how the financial condition of the company had been impaired by the increased cost of labor, materials and supplies during the war, the City Counsellor asked him if he would not advise reducing the dividends or passing a few dividends rather than "making the consumers pay the bill."

To that Mr. Evans replied: "As a stockholder of the Laclede Gas Light Company I would not be particularly overjoyed if my dividends were reduced or passed."

A great deal of President Holman's testimony was given over to the Laclede company's contract with the Consolidated Coal Company of Baltimore for the supplying of coal to the gas company and the disposition of the gas company's coke. The gas company had been criticized for this contract by the local press and the city's attorneys who had juggled a lot of figures purporting to show that the gas company was losing money because of the contract.

Mr. Holman testified that the contract had proven a very favorable one for the gas company, and he understood that it had also been a profitable one for the Consolidated Coal Company. He said he had bargained all over the East for a contract that would at the same time guarantee delivery of coal to the gas company and the sale of the coke output of the company, both at satisfactory figures, before closing with the Consolidated a six year contract that ex-

pires Dec. 31, 1919. He testified that the Laclede Gas Light Company was entirely independent of the Consolidated Coal Company.

Report on First Series of Tests to Be Conducted in Indiana on B.t.u. Standard

The gas heat standard testing committee, representing the Indiana Public Service Commission, the gas companies, the Indiana Municipal League and the United States Bureau of Standards, has announced the general results of its first series of tests on an actual gas plant. The eight experts on the committee have been testing various Indiana gas plants, and in one of the tests they investigated actual heat unit standards possible to be maintained at the coal gas plant of the United Gas & Electric Company, at New Albany, Ind. The tests covered a period of ten days.

In a formal report of the tests, the public service commission's engineers, headed by Harry O. Garman, chief engineer, said to the Indiana public:

"As a result of the testing it has been found that the heat value of the gas product at New Albany averages about 585 B.t.u. It has also been found that the eastern Kentucky coal used at this plant will produce gas having a heat value of between 580 and 600 B.t.u. economically and efficiently.

"Three other coal gas plants in the State are to be tested before the committee completes its work and makes a report to the commission of its findings. Next Monday the committee will start its test of the Northern Indiana Gas & Electric Company at Crawfordsville. The next test will start Mar. 1 at the plant of the Huntington Light & Fuel Company at Huntington and the final test day will be made at the Northern Indiana Gas & Electric plant at Fort Wayne. The report of the committee will be available about Apr. 1.

"The gas investigation was instigated by the commission at a conference on standards of gas service held at the State House Oct. 8, 1918. At that time the gas companies were having difficulty in producing rich gas because of the quality of the coal they were then being forced to use under war conditions.

"A number of Indiana cities, gas companies and the United States Bureau of Standards were represented at the hearing. It was finally decided to make a thorough survey of the Indiana plants to determine just how rich gas could be manufactured economically. The survey, which included the investigation of the records of gas plants in eighteen Indiana cities, was completed several weeks ago. The plants in which tests are now being made are all coal gas plants. It was not deemed necessary to make tests of water gas plants, as the richness of water gas depends entirely upon the amount of oil used in its production.

"The test being made in Indiana is the first thorough investigation of its kind to be conducted in any State, it is said. When it is completed the committee will have exact data on just what quality of gas the various coals will produce under actual operating conditions.

"The heat standard committee appointed as a result of the conference is composed of H. C. Peffer, professor of chemical engineering at Purdue University, representing the Indiana Municipal League; J. B. Klumpp, gas engineer for the United Gas Improvement Association, representing the Indiana Gas Association; A. I. Phillips, associate gas engineer for the United States Bureau of Standards, and H. O. Garman, chief engineer for the Indiana Public Service Commission. All the members of the standard committee are members of the testing committee with the exception of Mr. Klumpp. The other members of the testing committee are A. B. Abbott and A. B. Frankle, staff assistants of the Federal Bureau; Frank Hiss, plant engineer of the Lafayette Gas Company; D. H. Hufford, J. T. Hallett and F. W. Bostel, members of the commission's engineering staff, and Charles O. Bond, chief of the Philadelphia laboratories of the U. G. & I. Company.

"The heat standard for gas in Indiana is 600 B.t.u. as fixed by an old order of the public service commission years ago, before was fuel troubles became the principal consideration of gas companies everywhere. At the time the conference was held the companies made formal requests that the standard be lowered to about 528 B.t.u. When the report is completed the commission will adopt a standard on which to base rates. Gas falling below the standard will be given a correspondingly lower rate."

Brooklyn Borough Company Wants Injunction Vacated

The Brooklyn Borough Gas Company recently applied to Justice Cropsey in the Supreme Court in Kings County for the vacation of injunctions obtained by the Public Service Commission of the first district last summer, preventing the company from charging $1.30 per 1,000 cu. ft. for gas. The company has notified the commission that if the injunctions are nullified it is its purpose to advance the rates to $1.30 on April 1, or as soon afterward as possible.

The company now charges $1.10 per 1,000 ft. in the Thirty-first Ward, where most of its customers are, and 80 cents in the Thirty-second Ward where it has only 150 customers. The company proposes that the increased rate of $1.30 shall include its customers in both wards.

Future Financing of Providence Gas Company to Be Considered

Business preparedness is the commendable motive of the board of directors of the Providence (R. I.) Gas Company in deciding to submit to the stockholders at the annual meeting questions concerning future financing. No immediate need of fresh capital exists nor is any new financing contemplated for the near future, but the present charter provisions are both outgrown and out of date.

The stockholders are, therefore, asked to consider and take action upon the question of the advisability of seeking legislative acts enabling the company to issue mortgage bonds and to increase its capital stock and also to issue preferred stock. Such acts would be merely permissive, of course, and, for example, unless the General Assembly grants authority for an increase in the total amount of capital stock, the expansion of the company would be checked and its future earning power impaired.

The present capital limit of Providence Gas is $10,000,000. The amount of stock outstanding is $7,560,000, but the present $2,100,000 convertible note issue will, between 1920 and 1923, be exchangeable for stock at par, which would increase the total stock to $9,660,000 of the $10,000,000 already authorized.

Bonus System Installed by Chicago Company for Meter Readers Proves Successful

The bonus system instituted in the meter reading department of the Peoples Gas Light & Coke Company of Chicago, is beginning to show results in increased earnings for the men. The men are paid on four different rates of wages, according to their length of service and efficiency. Those receiving the lowest rate have a chance to pull down the largest bonus. A "hundred per cent man" in class 1 gets $15.00 added to his pay, class 2 $10.00, class 3 $7.50 and class 4 $5.00. As the class 4 men are paid the highest wages and have been the longest in the service they naturally have more hundred per cent men than the other classes. The system has proved an inducement to meter readers and better results are being obtained and less complaints.

Bemidji Offices Moved to More Convenient Location

The office and display room of the Bemidji (Minn.) Gas Company has been moved from its Minnesota Avenue location to one of the rooms in the McIver Building on Beltrami, occupying the north half of the north storeroom, a much more convenient location.

General Harries Engaged in Repatriation of Russian War Prisoners

Brigadier General George H. Harries, of H. M. Byllesby & Company, the first American officer in Berlin as the American member of the Inter-Allied Commission on the Repatriation of Prisoners of War, has finished the task of evacuating not only American prisoners, but those of Greece, Serbia and Roumania as well. For some weeks he has been engaged in a much greater and more difficult task, namely the return to non-Bolshevik Russia of the 600,000 to 700,000 nationals of that country. In the latter part of January there was a great "search" proceeding, the Americans and British looking into every hole and corner, every mine, every prison throughout Germany for men still unaccounted for who may be concealed by the enemy.

General Harries recently was quoted as saying:

"Bolshevism is no shadow; it is a very real and very serious menace to everything which we include in the term civilization."

Alfred J. Diescher Resigns as Vice-President of Empire Companies

Alfred J. Diescher, vice-president of the Empire Gas & Fuel Company, Bartlesville, Okla., has resigned to enter into business for himself. Word was received in Bartlesville from Frank W. Frueauff.

Mr. Frueauff in his announcement pays tribute to Mr. Diescher's work for the Empire. He says:

"Alfred J. Diescher, vice-president of the Empire Gas & Fuel Company, has severed his connection with the Doherty organization to embark in business for himself. Mr. Diescher has been connected with the organization since 1912, when our natural gas and oil activities in the Mid-Continent field were in their infancy and has had much to do with the successful development of those properties. During the past year Mr. Diescher has made his headquarters in New York, leaving the operation of the properties to the managing committee at Bartlesville."

Coast Valleys Company Asks Permission to Issue Bonds

The Coast Valleys Gas & Electric Company, operating in Monterey County, Cal., has applied to the railroad commission for authority to issue bonds of the face value of $125,000, the proceeds to be used, partially, to reimburse the company for capital expenditures already made.

June 30, 1917, appraisement of the company's property placed its value at $1,213,546.36. Since June 30, and prior to Nov. 30, 1918, the company has expended an additional $71,466.43 in betterments and improvements.

The company has outstanding bonds of the par value of $900,000. There are no notes outstanding and on Nov. 30, last, the company owed $93,827.49 open accounts.

The authorized stock of the company, all of which has been issued, is divided as follows: Twenty thousand shares preferred stock, par value $100, and 30,000 shares common stock, par value $100. There have been no dividends paid on the stock since the company's organization. The company proposes making its issue first mortgage, 6 per cent, 40-year gold bonds.

According to a financial statement filed with to-day's application, the gross income of the company for the fiscal year ending June 30, 1918, was $112,626.98. The total income charges were $58,546.40, leaving a net income surplus of $54,080.58 for the year. A statement for the year ending Nov. 30, last, shows a gross income of $112,197, with total income charges of $58,361.75, leaving a net income surplus for the period of $53,835.44.

Billings Company Makes Tar Creosote as By-product

Availability of illuminating gas plays no less a part in the industrial life of Billings, Mont., than in household service, for there are but few local manufacturing establishments whose processes do not demand its use. To provide this public service, the Billings Gas Company has a splendidly equipped plant at Fourth Avenue and North Nineteenth Street.

Incident to the manufacture of gas, the company makes as a by-product a tar creosote paint, a permanent, penetrating wood preservative, which finds wide distribution in this territory.

This tar creosote paint lends itself to a variety of uses including insurance of fence posts, barns, sheds, warehouses and shingled buildings against decay, destruction of wood insects, and for disinfecting poultry and stock buildings.

Bill Introduced to Repeal Public Service Commission Law and Re-establish Railroad Commission

The present week brought the whole public utility question directly before the people of the State of Indiana in many ways. After a long period of "innocuous desuetude" on the part of several bills that had been introduced to repeal the public service commission law of 1913 and re-establish the old railroad commission—which had power only over railroads and interurbans, the latter almost by implication—the situation changed so that it seemed the Indiana house of representatives would pass one of the several bills to repeal State utility control and the measure would have to be killed in the senate.

The fight against the public service commission also became almost inextricably linked up with a fight of certain utility properties in the State, including some gas companies, to pass Senate Bill 126, which would extend the time under which utilities can surrender franchises and accept indeterminate permits from the commission. The whole story involved in the utility situation in the closing days of the legislature was the echo of war conditions. The peculiar situation of a large group of consumers throughout the State blindly opposing the whole theory of State control because of the necessity the Indiana commission found of raising rates to keep utilities alive during the war, and a vast group of utility interests, desiring to free themselves from pre-war franchise obligations so that they might go before the commission and present their appeals for emergency rate relief, was the picture with which the Hoosier legislature was confronted during the last days of the session. How the matter would turn out was problematical, but it was believed that cooler judgment among the majority leaders of both houses would prevail finally and the theory of State control be saved for at least the next two years. The same general feeling of popular antipathy to State control of utilities—based on the war situation and conditions—that suddenly flared forth in Indiana this week and last week, has been echoed here from various States, and to those versed in utility control problems such an echo was to be expected. The general public is pleased with rate control so long as that rate means "revision downward," but the moment the war reversed the situation and "revision upward" became necessary to keep utility properties alive, thousands of consumers repented of their bargain in many States. Finally the situation came to the stage of an actual fight in the Hoosier legislature. It was certain that the governor would veto any bill that might slip through to cripple the Indiana public service commission, for he has been an ardent advocate of State control—and has not lost faith in its efficacy even with the unusual war conditions and burdens.

A group of utility interests throughout the State, including representatives of some of the larger gas holdings, prepared and circulated in the closing days of the legislature, specific arguments against the repeal of the public service commission control.

Hearing Held in Indiana on Bill to Permit Utilities to Surrender Franchises After Time Limit Has Expired

At the only hearing that was held in the legislative session on the bill to permit utilities to surrender their franchises to the State, even though the time limit had expired, gas utilities and their representatives featured the discussion, which ran the whole gamut of the war-price controversy and involved the question of commission abolishment throughout.

The hearing was held before the house Judiciary A committee, on Senate Bill 126, which was introduced by Senator William E. Bowers, of New Haven, and the viewpoint of the "outraged" consumer, who has had to pay higher war costs of utility-operation just like he has had to pay higher war costs of every other sort of domestic operation, was mixed in the discussion at all points with the viewpoint of the utilities—many of them struggling now to keep their heads above water until relaxation of abnormal conditions comes. The representatives of the consumers and the municipalities in general urged the point that reduction of all costs is at hand.

The Northern Indiana Gas & Electric Company, the Indianapolis Water Company, the East Chicago & Indiana Harbor Water Company, the Terre Haute, Indianapolis & Eastern Traction Company and other utilities were represented at the hearing.

Utilities like the Indianapolis Traction and Terminal Company and the Citizens Gas Company could get rid of their franchise obligations under the terms of Senate Bill 126.

Representative Kimmel, chairman of the committee, presided at the hearing.

The general trend of the utility argument was that when the public service commission law first went into effect, the utilities hesitated about taking indeterminate permits, but now after having had an opportunity to see the law work, they were satisfied that it was a good thing and that if the law was a good law there would be no objection to extending its provisions to permit all the utilities that cared to do so to come within its provisions.

J. L. Clark, who was formerly a member of the public service commission, argued that the franchises mean othing to cities, except to control the rates, if the franchise fixes such rates, and that under recent court decisions it has been shown that even the control of rates can not strictly apply, because in cases of emergency the utilities can get relief. On the other hand, he said, there is no chance under rate-limited franchises for a utility to be forced to reduce its rates as it might be under an indeterminate permit.

Kentucky Court of Appeals Upholds Decision of Lower Court in Rationing Natural Gas Supply

Judge Thomas in the Kentucky Court of Appeals, has upheld the decision in the lower court which denied an injunction against Louisville Gas & Electric Company to restrain it from rationing the supply of natural gas to consumers in Louisville. Application for an injunction was made by the city officials.

Rationing order was made by the United States Fuel Administration to apply when the demand was in excess of the supply which flowed through the mains from the West Virginia fields to Louisville. Order of the Fuel Administration provides that at such times the company shall not furnish more than 1,000 cu. ft. a day to any one consumer, unless special permits are obtained from the Federal organization.

AGasser in Kansas

Well in Greenwood County Estimated at 2,000,000 Cu. Ft.

A gas well estimated with a capacity of 2,000,000 cu. ft., was brought in Feb. 10 by the Empire Gas & Electric Company on the Temple lease, in the Beaumont district, Kansas. This pool was opened up last summer by the Empire, and considerable drilling is going on there at present. There are six strings of tools running constantly.

An oil well was recently completed on the Beaver farm near Dilworth, Okla., by the Empire.

Twin State Gas & Electric Company to Open New Office in Rochester, N. H.

It was announced that Manager McGillivray of the Twin State Gas & Electric Company, with headquarters in Masonic Temple, Dover, N. H., is soon to establish an office in Rochester. A store in Dodge block, near the Western Union office will be opened for an office by the company, and Miss Cora Nichols will be the Rochester manager.

The company is to make a special effort to give better service and greater accommodations than heretofore to its large number of Rochester patrons.

Complete New Coke Oven in Providence and Celebrate Event

Department heads and officials of the construction unit of the Koppers Company of Pittsburgh, Pa., which has finished building and put in operation the new coke oven at the Providence (R. I.) Gas Company plant, celebrated the event with a banquet at the Narragansett Hotel Feb. 10. Officials of the gas company were included among the thirty-three persons attending. B. E. Falke, office manager of the Koppers' Company, was toastmaster. Among the speakers were E. H. Bauer, Walter M. Russell and R. L. Fletcher of the gas company.

Personal Notes

PHILIP H. GADSDEN has been elected a vice-president of the United Gas Improvement Company, Philadelphia, Pa. Mr. Gadsden is also the president of the Charles (S. C.) Consolidated Railway & Light Company, a U. G. I. subsidiary, and will retain that office.

GEORGE DIELMAN has been made manager of the Olympia (Wash.) Gas Company, succeeding J. G. Bourus, now manager of the Puget Sound Gas Company, at Everett, Wash.

FREDERICK C. FREEMAN, of Philadelphia, Pa., at present first assistant to the chief engineer of the United Gas Improvement Company, was elected as engineer of the Providence (R. I.) Gas Company. Mr. Freeman, who succeeds former president John R. Freeman as engineer at the plant, has been with the United Gas Improvement Company for 17 years and has made a fine record.

M. J. KIRWAN, deputy state oil and gas supervisor for California, has resigned his position to take charge of engineering work for Nippon Oil Company, of Tokio, Japan.

LIEUTENANT ALONZO J. HODGE, who has recently returned from Camp Lee, Virginia, and honorably discharged from the service, has entered the employ of the Gloucester (Mass.) Gas Light Company as a salesman.

T. A. NEILL, for 28 years superintendent of the South Penn Oil Company, has resigned from that company and become president and general manager of the Pittsburgh-Texas Oil & Gas Company.

THE CINCINNATI (OHIO) GAS & ELECTRIC COMPANY held its annual meeting at which the following directors were elected: Samuel Assur, Alfred M. Cohen, Edward H. Ernst, Charles D. Jones, Richard K. LeBlond, H. W. Lothmann, M. E. Moch, George W. Noyes, Rufus B. Smith, Charles P. Taft and Charles Windisch.

THE NEW HAVEN (CONN.) GAS LIGHT COMPANY recently held the annual meeting of its stockholders at which the old board of directors was re-elected as follows: George D. Watrous, Charles H. Nettleton, A. Heaton Robertson, Winston J. Trowbridge, Frederick F. Brewster, Eli Whitney, James S. Hemingway, H. Stuart Hotchkiss, James T. Moran. The board of directors re-elected the following officers: Charles H. Nettleton, president; George D. Watrous, vice-president; J. Arnold Norcross, secretary and treasurer; Robert E. Wyatt, engineer.

C. A. RUNYAN, president of the South Haven (Mich.) Gas Company, died at his home in South Haven Feb. 24 from complications following influenza.

HENRY BLATZ, formerly for fifty-five years in the employ of the Brooklyn Union Gas Company, died on Feb. 26 at his home, 318 Decatur Street, Brooklyn, N. Y., in his eighty-third year.

Two Massachusetts Companies Granted Higher Rate

The Massachusetts Gas & Electric Light Commission has approved of the petitions of the Framingham Gas, Fuel & Power Company and the Natick Gas Light Company for higher rates. Authority is granted by the commission for the former company to increase its rate from $1.55 per 1,000 cu. ft. to not exceeding $1.65, and the latter from $1.60 to not exceeding $1.75. Both changes were effective as of Feb. 1.

Societies and Associations

THE SOUTHERN GAS ASSOCIATION will hold its annual convention at Asheville, N. C., May 20-21-22, with headquarters at Battery Park Hotel. MacD. Dexter, who is chairman of the program committee has arranged a most interesting and instructive line of papers to be read before the association, which should bring forth good discussions from those present. Joe Taylor, chairman of the entertainment committee, has provided a line of entertainment of various kinds which will keep the members busy during their moments when not engaged in business. Especial attention is being provided for the entertainment of the ladies who are expecting to accompany their husbands to the meeting. The following rates for members of the association at the Battery Park Hotel, which is on the American plan, will prevail during the meeting: One person to room with bath, $6 per day; two or more persons to room with bath, $5 each person; one person to room without bath, $5 each day, and two or more persons to room without bath, $4 each person. Reservations can be made either direct to the hotel or to John D. Caldwell, general manager, Asheville Gas Company, Asheville, N. C.

THE PACIFIC COAST GAS ASSOCIATION will hold its first "Get-together" dinner of the season at the Hotel Alexandria, Los Angeles, Cal., Saturday evening, Mar. 15, at 6.30 p. m. This will be the first post-war gathering of gas men of the Pacific Coast. As a feature of the occasion, members are invited to send in a question regarding some phase of the industry, which question will be an-

swered on this evening by some one qualified to answer same, without divulging the name of the party propounding the question.

Southern California Company Bids $275 for Franchise

The Southern California Gas Company has been given a franchise in El Segundo, Cal., for a period of forty years. The amount paid for the franchise was $275.

Construction Notes

Oklahoma Natural Gas Company Completes New Pipe Line

The Oklahoma Natural Gas Company has completed its new high-pressure pipe line for the delivery of an additional supply of gas to Oklahoma City from the Cement Oklahoma field. Gas was turned into the line for distribution by the Oklahoma Gas & Electric Company Jan. 31.

Installation of Retorts Completed at Marquette

Other Improvements Contemplated

The Marquette (Mich.) Gas Light Company has just completed the installation of another bench of retorts at its plant in South Marquette. The number of retorts has been increased from twelve to eighteen, which means a fifty per cent increase in the generating capacity. This is now placed at 150,000 cu. ft. daily. While this amount is in excess of the company's requirements at this season of the year, when many coal ranges are in use, it will be none too much for the peak of the load in the summer months, when in previous years the capacity of the plant has been found too small for the demands on it. Particularly last summer, when the consumption reached record quantities, there was considerable trouble on account of gas shortage, resulting in low pressure and irate housewives, on occasions.

O. L. Marr, in charge of the operation of the plant, expects a great improvement in the service as a result of the installation of the new retorts, and of the exhauster which has been put in with them.

Another improvement the company contemplates the coming summer is the installation of a "booster" main east from Front Street, to Spruce, in the district of heavy gas consumption east of Front. This main will increase the pressure in the territory it will serve and will greatly improve the service for a large number of the company's customers. Mr. Marr is also tentatively considering other important work in connection with the plant.

Extension Contemplated by the Southern California Gas Company

The Southern California Gas Company of Los Angeles, Cal., is contemplating connecting up the village of Rivera, requiring an extension of about two miles to the general distribution system. The village will be supplied with natural gas.

The company recently obtained a franchise in the city of El Segundo, adjoining the cities of Redondo, Hermosa and Manhattan Beach, the plants in the three last mentioned cities having been purchased during 1918. A gas line will be laid to El Segundo, a distance of about four miles, and service of natural gas will be commenced some time this spring.

Contemplated Construction in 1919 by Kings County Lighting Company

The Kings County Lighting Company of Brooklyn, N. Y., has nearly completed its construction program for 1919.

There are many items in this year's budget which are necessary to keep a step ahead of the growing send out. The major one is a 5,000,000 cu. ft. holder, to be located at the distribution department.

The present holder capacity at the Sixty-fifth Street holder station consists of a 500,000 cu. ft. and a 2,000,000 cu. ft holder. The load is increasing every year, and it will be necessary to meet the demands by providing additional holder capacity.

The rated capacity of the manufacturing department, allowing one machine down for repairs, is about 5,200,000 cu. ft. per day. By making alterations to the present sets, this total could be raised to 8,500,000 cu. ft. or over.

During 1919 the company plans to make alterations on two 8-ft. 6-in. U. G. I. sets, providing them with larger connections, etc., and arrangements have been made to utilize the exhaust steam in these sets. The two 12-ft. machines will be provided with larger blast mains and greater blower capacity. Beside these alterations it is contemplated to install another 12-ft. machine, which would bring the total capacity up to 11,000,000 cu. ft. per day.

The new General Electric turbo compressor will be installed shortly, the gas connections, steam and exhaust piping and foundation for this unit having been completed for some time. This unit will be used to pump the dirty gas from the condensers through the scrubbers and purifiers, but may be used on the clean gas if necessary. The foundation for a similar unit has been completed and the gas connections will be placed during the summer so that next fall there will be two turbo-compressor units capable of handling 500,000 cu. ft. per hour each.

Arrangements will be made during the summer to connect the present exhausters to the new pipe system, which will eliminate the rather roundabout series of gas connections which the present system involves.

The capacity of the coal shed, where the generator fuel is stored, is about 4,000 tons. An addition to this shed is contemplated which will increase the generator fuel capacity to 6,000 tons and provide 2,000 tons of boiler fuel storage. This addition is necessary in order to eliminate the present method of storing the boiler fuel in the yard, by which the coal is dumped from a considerable elevation into the yard, from which it is shoveled into tip carts and taken to the boiler house. With the extended coal shed the fuel will be fed into the carts or cars by gravity, taken across the yard and dumped into a pit in front of the boiler house. From this point it will be elevated to the coal bunker by means of the bucket elevator and scraper conveyor now being installed. By this considerable labor will be saved and a larger fuel capacity provided.

To increase the purification capacity the small wet seal boxes will be changed to dry seal. A. P. & A. tar extractor will be installed to relieve the load on the present shaving scrubbers, which are not operating to the best advantage.

There are a great many smaller items on the construction program of this company, such as the installation of pumps, oil sprays, fine protection system and coal handling equipment.

Elmira Company Restrained from Putting Increased Rates into Effect

An injunction restraining the Elmira (N. Y.) Water, Light & Railroad Company from putting into effect the new schedule of step-up gas rates filed with the Public Service Commission on Jan. 20 was granted by Supreme Court Justice George McCann at Elmira on application of Corporation Counsel Boyd McDowell, representing the city.

The injunction is temporary and is returnable at a special term of Supreme Court to be held by Justice Kiley at Binghamton Mar. 4. It restrains the company from putting the schedule into operation pending a decision to be made by Justice Kiley on that date. On that date, the injunction may be made permanent or it may be set aside.

Unemployment Area Increasing Steadily

Twenty-six States Now Report a Surplus of Labor; Situation Becomes Serious

With six new States reporting a surplus of labor for the week ended Jan. 25, the area of unemployment in the United States, as indicated by telegraphic reports compiled by the United States Employment Service, covers twenty-six States, an increase of nineteen States since Dec. 21 showing a surplus.

On Dec. 3, 1918, the surplus of labor reported by all cities totaled but 12,000. Last week this total had reached the figure of approximately 210,000, while the current week shows a total of unemployment amounting to 265,000.

The number of cities reporting surpluses of labor over demand has increased from 44 to 50 per cent. The number of cities reporting shortages decreased 1 per cent.

Cleveland, with 65,000 surplus, an increase of 10,000 for the week; Detorit, 33,000; and Buffalo, 17,000, are the three cities reporting the largest surpluses.

The total labor shortage of the eighteen cities reporting shortages aggregates but 15,000.

The belt of unemployment, beginning in Illinois, extends east through Indiana, Ohio, along the Lakes to Buffalo, up into and through Massachusetts; then south along the Atlantic seaboard to Florida and back toward Illinois through Tennessee and Virginia, skipping almost completely the State of Kentucky.

New England

In Connecticut conditions of unemployment are steadily growing worse. In New Haven and Bridgeport the surplus of labor has been increasing at the rate of from 500 to 1,000 a week. Bridgeport now reports a surplus of 7,000 and New Haven a surplus of 6,000. Norwich and Middletown both report surpluses of 2,000, Derby, New London and Stamford all report surpluses. In Worcester, Mass., the number of unemployed remains at 6,000, the same as last week. In Boston the surplus has increased from 2,200 to 2,800. Lynn reports an increase in surplus of 100. The tendency in Massachusetts seems to be toward increased unemployment. Portland, Me., reports a surplus of 1,000 as against a surplus of 600 last week. Conditions in New Hampshire and Vermont are approximately the same as last week.

New York

Albany reports a surplus of 5,000 in the district, including Albany, Amsterdam, Gloversville, Schenectady, and Troy. This surplus, which consists principally of semi-skilled machinists, factory hands and textile workers, is an increase of 1,000 over last week. Buffalo reports a surplus of 17,000, which is an increase of 4,000 over last week. Syracuse and Utica early last week reported a possible slight reduction in surpluses, while this week these surpluses have jumped to 5,000 and 2,500 respectively. Rochester reports a surplus of 4,000. Practically every community reports an increase in unemployment.

New Jersey

Supply and demand remain about equal throughout the State. There is still a considerable number of unemployed in Jersey City. New Jersey has constantly reported the labor demand to be about equal to the supply.

Pennsylvania

Pittsburgh reports a shortage of miners, but a surplus of 5,000 common labor. There is also a surplus of 2,500 of semi-skilled labor and 500 clerks. Harrisburg and Philadelphia both report surpluses. Erie has a surplus of 2,800. There is considerable demand for miners in the Scranton district.

Ohio

Cleveland reports a surplus of 65,000, which is an increase of 10,000 over last week. Other cities report the following surpluses: Akron, 1,500; Cincinnati, 5,000; Dayton, 8,000; Toledo, 9,000; and Youngstown, 4,500. Last week Akron reported that the supply about equaled the demand; Cincinnati, a surplus of 2,000; Dayton, a surplus of 7,000. The condition of unemployment throughout the State is steadily becoming worse.

Middle West

Detroit, Mich., which last week reported a surplus of 30,000, now reports a surplus of 33,000 (20,000 three weeks ago, then 25,000, and then 30,000). Grand Rapids reports a surplus of 2,000. Jackson, Flint and Port Huron all report surpluses. For some time it seemed that Michigan, in spite of heavy cancellation of war contracts, was going to be able to take care of any surplus that might occur. Now it is apparent that unemployment throughout the State is increasing at a rapid rate. Milwaukee, which up to the present time has been reporting the demand about equal to the supply, now reports a surplus of 10,000. Superior, Wis., reports a surplus of approximately 1,000. Minneapolis, Minn., has a surplus of 5,000, as against 4,000 last week and 2,000 the week before. Slight surpluses are reported throughout Illinois, although Chicago seems to be maintaining a fairly even balance, and is taking care of large numbers of returning soldiers. Indiana reports surpluses at several points. Fort Wayne, which had a surplus of labor of only 400 last week, now reports a surplus of 500. Indianapolis, which reported 4,400 surplus last week, now reports 4,800. Evansville, South Bend and Terre Haute all report surpluses. In Kansas City, Kans., unemployment is increasing at the rate of about 100 a week. In Butte, Mont., the surplus has dropped from 10,000 to 7,500. There is still a slight surplus in Nebraska, but, as last week, not enough to cause any uneasiness in the State.

Southern

Slight shortages are reported from South Carolina and Virginia, with the exception of Richmond, Va., where there is a surplus of 500. Baltimore, Md., which but a few weeks ago reported a shortage of 7,400 now reports a shortage of but 2,600. Nashville, Tenn., reports a surplus of 1,500, as against a surplus of 2,000 last week. There has been but little change in other sections of the State for the last three or four weeks. In Louisiana there is still some demand for domestic colored help, but a heavy surplus of white labor. Louisville, Ky., still reports a slight shortage. Slight shortages are still reported in Wilmington, Del.

Pacific Coast

San Francisco, Cal., which two weeks ago reported a surplus of 8,000, now reports a surplus of 4,000. Oakland reports a surplus of 1,900—the same as last week. Considerable surplus is also reported from Los Angeles. Portland, Ore., reports a surplus of 6,500, which is 500 less than the previous week. Seattle, Wash., which last week reported a surplus of 8,000, now reports a surplus of 10,000.

Belleville Denied Reduction in Rates Charged by St. Clair County

The efforts of city officials of Belleville, Ill., to obtain a reduction in the rates for natural gas service charged by the St. Clair County Gas & Electric Company failed last week, when City Attorney Louis C. Grossman, of Belleville, was formally notified by the Illinois Public Utilities Commission that no reduction will be ordered.

The city's request for a reduction of the gas rates was filed with the commission in July, 1917. The report of the commission shows that receipts of the gas company during 1917 were $62,927 and the expenses $32,825, on a valuation of property placed at $281,238.

The report of the commission says that the earnings of the company have not been sufficient to lay aside a proper allowance for return on investment, depreciation or maintenance of the Cahokia Gas & Oil Company, which supplies the natural gas for the St. Clair County company. The commission ruled that the rates for service in Belleville are, therefore, not excessive. The charge to domestic consumers in Belleville is 75 cents net per 1,000 cu. ft.

The United Gas & Electric Corporation subsidiary operating companies report for November:

	1918	1917	Decrease
November gross	$1,478,567	$1,408,294	*$70,273
Net after taxes	241,981	447,206	205,225
Surplus after charges	110,520	142,813	32,293
Twelve months' gross	16,228,554	16,196,689	*31,865
Net after taxes	4,058,508	5,192,554	1,134,046
Surplus after charges	1,242,679	2,630,798	1,388,119

*Increase.

The General Gas & Electric Company and its subsidiary companies report gross earnings for the month of January, 1919 and 1918, and comparison as follows:

	Year		Inc.—Dec.	
System	1919	1918	Amount	Per Cent
Rutland	$47,467.57	$42,490.98	$4,976.59	11.7
Northwestern Ohio	22,200.00	19,277.18	2,922.82	15.2
Sandusky	46,942.16	49,890.08	*2,947.92	*5.9
Binghamton	40,062.55	35,241.25	4,821.30	13.7
Sayre	11,383.75	10,694.78	688.97	6.5
New Jersey	29,184.32	21,645.64	7,538.68	34.8
Interurban Gas Co.	924.70	762.37	162.33	21.2
Totals	$198,165.05	$180,002.28	$18,162.77	10.05

*Decrease.

The Kansas Gas & Electric Company recently issued a statement showing figures for the year ended December, 1918 and 1917, and comparison as follows:

	1918	1917	Increase
December—			
Gross	$254,720	$186,569	$68,151
Net	91,331	56,325	35,066
Balance after charges	51,104	28,843	22,261
Year ended Dec. 31—			
Gross	2,123,556	1,767,642	355,914
Net	691,593	487,360	204,233
Balance after charges	307,634	212,039	95,595
Balance after preferred dividends	174,634	79,039	95,595

The Portland (Ore.) Gas & Coke Company reports figures for December, 1918 and 1917, and comparison as follows:

	1918	1917	Increase
December—			
Gross	$173,233	$125,059	$48,174
Net	59,491	47,313	12,178
Balance after charges	30,000	18,048	11,952
Year ended Dec. 31—			
Gross	1,797,461	1,361,150	436,311
Net	795,307	607,752	187,555
Balance after charges	443,560	271,737	171,823
Balance after preferred dividends	300,202	131,737	168,465

The M. T. C. Oil & Gas Company, Wilmington, Del.—To prospect for petroleum oil and natural gas and market same; capital, $100,000.

The Gas Products Company, Columbus, Ohio. $100,000. F. Howard Auld, Stanley D. Winger, George S. Butler, E. Mithoff Nicholas, John R. Gobey.

The Duquesne Gas & Oil Company, to acquire oil and gas lands, and to develop same. Capital $100,000; F. R. Hansell, E. M. MacFarland, J. Vernon Pimm, Wilmington, Del.

Davenport-Rock Island Oil Company, to drill for petroleum, gas, oil, etc. Capital $100,000; C. J. Montgomery, Rock Island, Ill.; Dick R. Lane, P. C. Ambrose, Davenport, Iowa.

The Wilmington Gas Company has declared a semi-annual dividend of $3 on preferred stock, payable March 1.

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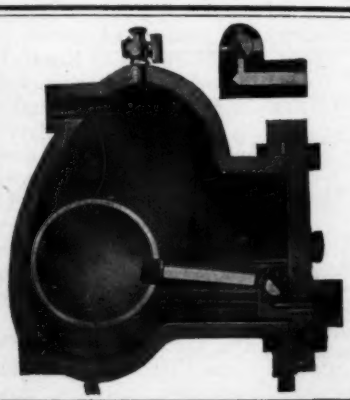

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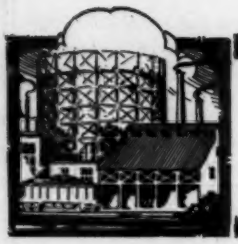
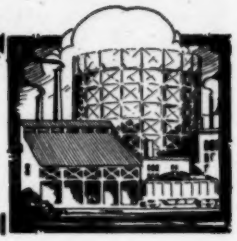


With The Equipment & Appliance Manufacturers



Conducted by Business Department of American Gas Engineering Journal

Plants Assembled in Miniature Before Constructed—Errors Avoided

The Steere Engineering Company, Detroit, Mich., recently issued Bulletin No. 36 entitled "Plant Models." It goes into details as to how this company handles all kinds of plant construction. We quote a few paragraphs from this bulletin:

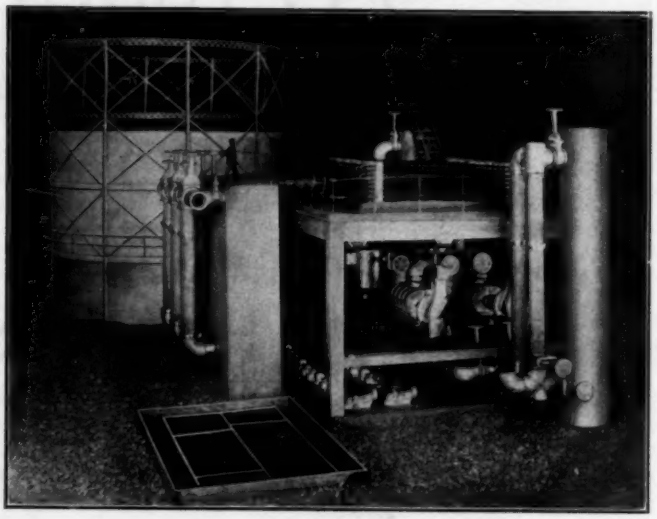
"The mechanical draftsman must have a clear mental vision of the apparatus he is to lay out, in fact must be able actually to see it with his mind's eye, before he begins his drawings; then he must look at it from top, sides, ends, outside and inside, as he proceeds with his plans, elevations and sections. This is the easy part, as he can change the point of view in his mind at will, portraying it as he sees it from this or that direction, cutting away obstacles by the production of sections, and at the end the result is good and correct and clear to the maker, but often difficult to others.

"Conversely, the reader of the drawings must take the various pictures that the draftsman has made, piece them together from their different points of view, and hold them there while he constructs in his mind the vision that the draftsman saw. This is the hard part, especially if the design requires a number of sections to develop it, for when the reader has several of the different portions properly combined in his mind, and is mentally reaching for another piece to fit in, the whole combination is liable to come tumbling down, and the job must be started all over again.

"Consequently, it is not unusual that the purchaser of apparatus has not taken the time nor the trouble to thoroughly comprehend the assemblage that the drawings represent, or even if he has given them careful study, has obtained only a hazy or possibly mistaken impression from them. It is also true that an installation frequently appears different after erection, from the impression conveyed by the drawings. This is particularly the case if the connections are complicated, with pipes crossing and paralleling, and if associated apparatus is not shown in on the drawings, so that comparisons can be made for an idea of the appearance as a whole.

"It is no wonder then, that changes and corrections during erection, justified by faults and oversights, by suddenly revealed advantages, or even by general appearance —changes which appeal to both purchaser and builder as the work assumes form, but which are almost impossible to detect from the drawings except under minute scrutiny—are of common occurrence with accompanying expenditure of time, money and patience. If the purchaser and the builder could have sat down together and really constructed that plant or apparatus, using real, individual accessories and materials, making changes and alterations as they suggested themselves, before the actual plant or apparatus was even started, no occasion for changes, corrections or misunderstandings later on should have arisen.

"This is exactly what we are offering those of our customers who are willing to be shown, as we are glad to show them. We can build a modern gas plant, power plant, or any part of it, complete in every detail and of every capacity, in from one to three hours. We have in stock a complete line of standard and special apparatus and fittings sufficient to equip a dozen plants. True, they are of Lilliputian size, but they are there, can be seen and handled, installed in position and connected up, and we will guarantee to construct for you a replica of your plant that will show it as it is, and then, if you wish, we will get our heads together and show it as it should be."



ONE OF THE MODEL PLANTS

The accompanying illustration shows one of several kinds of plant installations assembled in Lilliputian size. All the apparatus is properly grouped and connected up. All the details are worked out in advance to make sure that they are practical.

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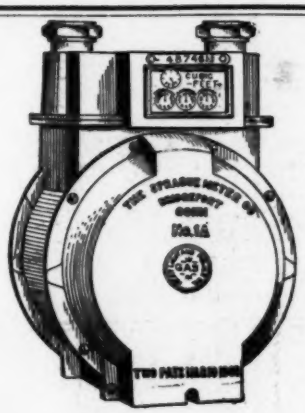

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